

## Patent Claims

1. A protective switching device, in particular  
5 a differential current circuit breaker, having a core-  
balance transformer (6) which monitors a line network  
(Ln) and actuates a release (4) which, via a tripping  
circuit (2) and an actuation circuit (3), actuates is  
coupled to a switch mechanism (16) in order to operate  
10 a power breaker (18), characterized in that a tripping  
circuit (5), which can be tripped by means of a remote  
tripping signal (Sf), is connected to a transformer  
(20) which can be actuated on the secondary side and  
whose primary side is connected to an actuation circuit  
15 (3) of the release (4) for remote tripping of the  
protective switching device.

2. The protective switching devices claimed in  
claim 1, characterized in that, if the secondary of the  
transformer (20) is short-circuited, the tripping  
20 circuit (5) produces a control signal (S<sub>s</sub>) for the  
actuation circuit (13) of the release (4).

3. The protective switching devices claimed in  
claim 1 or 2, characterized in that the tripping  
circuit (5) comprises an oscillator (22) which is  
25 connected to the primary side of the transformer (20).

4. The protective switching devices claimed in  
claim 3, characterized in that the oscillator (22) is a  
square-wave generator whose frequency (F) is set to  
between 500 Hz and 5 Hz.

30 5. The protective switching devices claimed in  
one of claims 1 to 4, characterized in that the  
tripping circuit (5) has a comparator (24; V2) which is

connected on the primary side to the transformer (20) and is connected on the output side to the actuation circuit (13) for the release (4).

5 6. The protective switching devices claimed in one of claims 1 to 5, characterized in that the tripping circuit (5) has a non-reactive resistor  $R_S \geq 10 \text{ k}\Omega$  which is connected to the primary winding (N1) of the transformer (20).

10 7. The protective switching devices claimed in one of claims 1 to 6, characterized in that the tripping circuit (5) has a reference signal source having a voltage divider (R7, R8) which is fed from a supply voltage ( $U_v$ ), via a zener diode (D2).

15 8. The protective switching devices claimed in one of claims 1 to 7, characterized in that secondary of the transformer (20) is connected to ground potential (PE) via a resistor series circuit (R11, R12).

20 9. The protective switching devices claimed in one of claims 1 to 8, characterized in that the actuation circuit comprises a comparator (13) with a downstream controllable electronic switch (14), which is connected to the release (4).

25 10. The protective switching device as claimed in claim 9, characterized in that the controllable switch is a transistor (14) whose base control input is connected to the comparator (13) and in whose collector-emitter circuit a tripping relay coil (15) of the release (4) is connected.